

What is claimed is:

1. A saw blade for cutting fiber cement, comprising:
a circular saw blade blank defining a circumferential rim, and a plurality of
5 gullets and adjacent saw tip shoulders formed in said rim;
a saw blade tip mounted on each saw tip shoulder; and
the rim defining a kerf chip and a dust minimizer located proximate each
gullet.
2. The saw blade claimed in Claim 1, wherein each said minimizer includes a
10 plurality of radially-extending hills and valleys formed in said rim.
3. The saw blade claimed in Claim 2, wherein:
the rim defines an edge;
the hills are located at equally radial distances above said edge; and
the valleys are located at equal radial distances below said edge.
- 15 4. The saw blade claimed in Claim 3, wherein the hills and valleys are
substantially semi-circular in profile.
5. The saw blade claimed in Claim 4, wherein the radii of said hills and valleys
are substantially equal.
6. The saw blade claimed in Claim 5, wherein the centers of said substantially
20 semi-circular hills and valleys are located substantially radially equi-distantly below
and above, respectively, said edge.
7. The saw blade claimed in Claim 6, wherein said edge lies substantially along
an arc.
8. The saw blade claimed in Claim 6, wherein said radii equal about 0.050
25 inches.

9. The saw blade claimed in Claim 2, wherein each minimizer includes at least four valleys and three peaks.

10. The saw blade claimed in Claim 2, wherein each minimizer precedes each tip shoulder in the direction of cut.

5 11. The saw blade claimed in Claim 10, wherein each gullet is located between each said minimizer and said tip shoulder.

12. The saw blade claimed in Claim 2, wherein each gullet is substantially semi-circular in profile.

10 13. The saw blade claimed in Claim 12, wherein the gullet center is located radially within the rim.

14. The saw blade claimed in Claim 13, wherein the rim is located about 91mm from the center of the blade, and the gullet centers are located about 89mm from the center of the blade.

15 15. The saw blade claimed in Claim 12, wherein the radii of the gullets is about 8mm.

16. The saw blade claimed in Claim 2, wherein a PCD/carbide tip is mounted on each shoulder at a predetermined hook angle.

17. The saw blade claimed in Claim 16, wherein the tip hook angle lies in the range of from about minus 7 to about plus 10 degrees.

20 18. The saw blade claimed in Claim 17, wherein the hook angle is negative.

19. The saw blade claimed in Claim 18, wherein the hook angle is about minus 5 degrees.

20. The saw blade claimed in Claim 18, wherein there are six sets of minimizers, gullets, and PCD tips spaced circumferentially equidistantly around the rim.
21. A process for making a saw blade tip, comprising:
cutting an array of tips from a PCD blank;
5 the PCD blank having a PCD layer pre-joined to a carbide layer;
each tip having two diverging radially-relieved side surfaces; and wherein
the array is formed by a plurality of adjacent tips oriented such that one of said
relieved side surfaces of one tip is adjacent the opposite relieved side surface of
another tip.
- 10 22. The process claimed in Claim 21, wherein the base of one tip is adjacent the
top of another tip.
23. A process for making a saw blade, comprising:
cutting relief surfaces into a PCD blank to form a saw blade tip; and
mounting a plurality of said cut tips on rim shoulders of a circular saw blade
15 adjacent a corresponding plurality of gullets formed in a rim of the circular saw blade,
the tips being mounted at a negative rake angle.
24. A circular saw blade formed by the process claimed in Claim 23, and further
comprising:
a dished area formed in said shoulder to underlie a corner of said tip.
- 20 25. A circular saw blade formed by the process claim in Claim 23, further
comprising a chip and dust minimizer formed at a plurality of sites in said rim of said
saw blade.
26. The circular saw blade claimed in Claim 25, further comprising a plurality of
gullets formed in the rim of said circular saw blade, each chip minimizer being
25 formed in front of each said gullet in the direction of rotation of the saw blade.

27. The circular saw blade claimed in Claim 25, wherein at least one gullet is annular and having a constant radius.

28. The circular saw blade claimed in Claim 27, wherein said at least one gullet is substantially defined in profile by a semicircle, the center of the semicircle being
5 located radially inwardly of the perimeter of the saw blade.